

REMARKS

By the present amendment, Claims 1-13 have been amended and Claims 14-18 have been canceled. Claims 1-13 are pending in the application, with Claims 1 and 11 being independent claims. Claims 1, 4, 7, 10, 13 and 16 are again rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Schmidl (U.S. Patent No. 5,732,113) in view of Meehan (U.S. Patent Application Publication No. 2003/0119468 A1). Claims 2, 3, 5, 6, 8, 9, 11, 12, 14, 15, 17 and 18 remain objected to would be allowable if rewritten to include the limitations of the base claim and any intervening claims. The cancellation of Claims 14-18 renders these rejections moot with respect to these particular claims.

The Examiner again concedes that Schmidl fails to disclose recitations regarding the first preamble sequence and the second preamble sequence in original Claims 1, 4, 7, 10, 13 and 16. The Examiner states that Meehan discloses these recitations in paragraph 0006, and asserts that it would have been obvious to incorporate the preamble sequence generating and transmission method disclosed by Meehan in the invention of Schmidl.

Claims 1-13 have been amended where Claim 11 has been amended to be an independent claim, Claims 4, 7 and 10 have been amended to be dependent on Claim 1, and Claim 13 has been amended to be dependent on Claim 11.

Claim 1 has been amended to recite, in part, a method to generate a preamble sequence to decrease a peak-to-average power ratio (PAPR) through at least two antennas in an orthogonal frequency division multiplexing (OFDM) communication system having a plurality of subcarriers actually in use and identified by unique numbers in a frequency domain, the method including generating a first short preamble sequence with elements corresponding to the plurality of subcarriers, wherein data other than null data is inserted for elements associated with a subcarrier identified by a unique number that is an even number; generating a second short preamble sequence with elements corresponding to the plurality of subcarriers, wherein data other than null data is inserted for elements associated with a subcarrier identified by a unique

number that is an odd number; and generating a preamble sequence in a time domain by transforming one of the first and second short preamble sequence according to a transmission rule by using an inverse Fast Fourier transform. Claim 11 has been amended as an independent claim in a similar manner.

Applicants respectfully submit that the amendments to the claims are fully supported by the original disclosure, and introduce no new matter therewith.

Schmidl describes a method and apparatus that uses two OFDM training symbols to obtain full synchronization in less than two data frames, and Meehan describes a method and system for enhancing the signal reception of a digital wireless receiver.

The Examiner relies on lines 6-8 of the abstract of Schmidl for the first preamble sequence recitations of the claims, and lines 9-12 of the abstract of Schmidl for satisfying the second preamble sequence recitations of the claims. In lines 6-8 of the abstract, Schmidl merely discloses that a first OFDM training symbol has only even-numbered subcarriers, and does not have odd-numbered subcarriers. In lines 9-12 of the abstract, Schmidl merely discloses that a second OFDM training symbol has even-numbered subcarriers and the subcarrier is differentially modulated from the even-numbered subcarriers of the first OFDM training symbol by a predetermined sequence. Schmidl requires no dedicated subcarriers, as explained in col. 12, lines 45-48. Schmidl fails to teach or reasonably suggest the recitations of Claims 1 and 11.

Meehan describes, in paragraph 0006, how a first predetermined portion of preamble information with a first antenna is processed to produce a first preamble sequence, and how a second predetermined portion of the preamble information is processed to produce a second preamble sequence. Meehan fails to supplement the deficiencies of Schmidl because Meehan nowhere suggests generating a first preamble sequence in which odd data of the preamble sequence becomes null data and even data of the preamble sequence becomes data, the first preamble sequence being adapted to be transmitted over an even subcarrier via one of the at least two antennas, and generating a second preamble sequence in which the even data of the preamble

sequence becomes null data and the odd data of the preamble sequence becomes data, the second preamble sequence being adapted to be transmitted over an odd subcarrier via another one of the at least two antennas. Meehan fails to supplement the deficiencies of Schmidl because Meehan fails to teach or reasonably suggest the recitations of Claim 1 and 11.

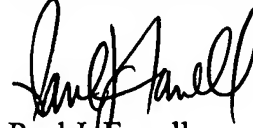
More particularly, Schmidl, Meehan, or any combination thereof, fails to teach or reasonably suggest a method to generate a preamble sequence to decrease a PAPR through at least two antennas in an OFDM communication system-having a plurality of subcarriers actually in use and identified by unique numbers in a frequency domain, the method including generating a first short preamble sequence with elements corresponding to the plurality of subcarriers, wherein data other than null data is inserted for elements associated with a subcarrier identified by a unique number that is an even number; generating a second short preamble sequence with elements corresponding to the plurality of subcarriers, wherein data other than null data is inserted for elements associated with a subcarrier identified by a unique number that is an odd number; and generating a preamble sequence in a time domain by transforming, by using an inverse Fast Fourier transform, one of the first and second short preamble sequence according to a transmission rule, as recited in amended independent Claim 1. Schmidl, Meehan, or any combination thereof, also fails to teach or reasonably suggest similar recitations in amended independent Claim 11.

Accordingly, amended independent Claims 1 and 11 are allowable over Schmidl, Meehan, or any combination thereof.

While not conceding the patentability of the dependent claims, *per se*, Claims 2-10, 12 and 13 are also allowable for at least the above reasons.

Accordingly, all of the claims pending in the Application, namely, Claims 1-13, are in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicants' attorney at the number given below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Paul J. Farrell", written in a cursive style.

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